

**WIRELESS ENGINE MONITORING SYSTEM****Abstract of the Disclosure**

A wireless engine monitoring system (WEMS) includes an engine monitoring module that is mounted directly on an aircraft engine and records, stores, encrypts and transmits full flight engine data. The system preferably interfaces to the Full Authority Digital Engine Controller/Engine Control Unit (FADEC/ECU) and can record hundreds of engine parameters with a preferred sampling frequency of about one second. The engine monitoring module is preferably formed as a miniaturized module directly mounted on the aircraft engine within its cowling and has a conformal antenna. The engine monitoring module can also upload data for onboard processing.